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Agricultural Residues for Production of Bioenergy and Organic Fertilizers

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Agricultural Residues for Production of Bioenergy and Organic Fertilizers

BIOGAS PRODCUTION

World Bank Agricultural Research and Extension Training (ARET) Project

- **Aim of the Project:**

To demonstrating and disseminate good agricultural practices and technologies for animal waste management, soil fertilization, and erosion control, as well as river and ground water quality monitoring

- **Total budget:** 7.85 million USD

- **Period of implementation:** 2001-2007

- **Coverage:** 154 villages, over 800 farm households, and 1,058 ha of agricultural land

The adoption of biogas digesters within the project was used as a specific measure for on-farm nutrient management and promotion of efficient manure management

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- **Total number of biogas digesters installed within the project: 272**
- **Geographical coverage:** mainly in western Georgia, covering 56 villages
- **Additional number of biogas digesters was installed:**
 - with support of other donors: 80
 - with co-funding provided by the regional government in Achara (Western Georgia): 60
- **Capacity of biogas digesters installed:**
 - **Volume:** 6 m³
 - **Annual production of biomass:** 700-800 m³ (14-20 tons) per farm
 - **Reduction of fuelwood consumption:** from 15 to 7 m³ per year

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BIOGAS PRODCUTION

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- **Benefits from biogas digesters installed:**
 - Reduction of non-point source pollution from improper manure storage
 - Production of organic fertilizers as a byproduct of biogas digestion
 - Alternative source of energy to replace fossil fuels and fire wood

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BIO-COMPOSTING

South Caucasus Compost Project

Aim of the Project:

To evaluate existing resources of biodegradable waste used for bio-composting and to assess the quality of compost produced from biodegradable household waste as organic fertilizer using field experiments

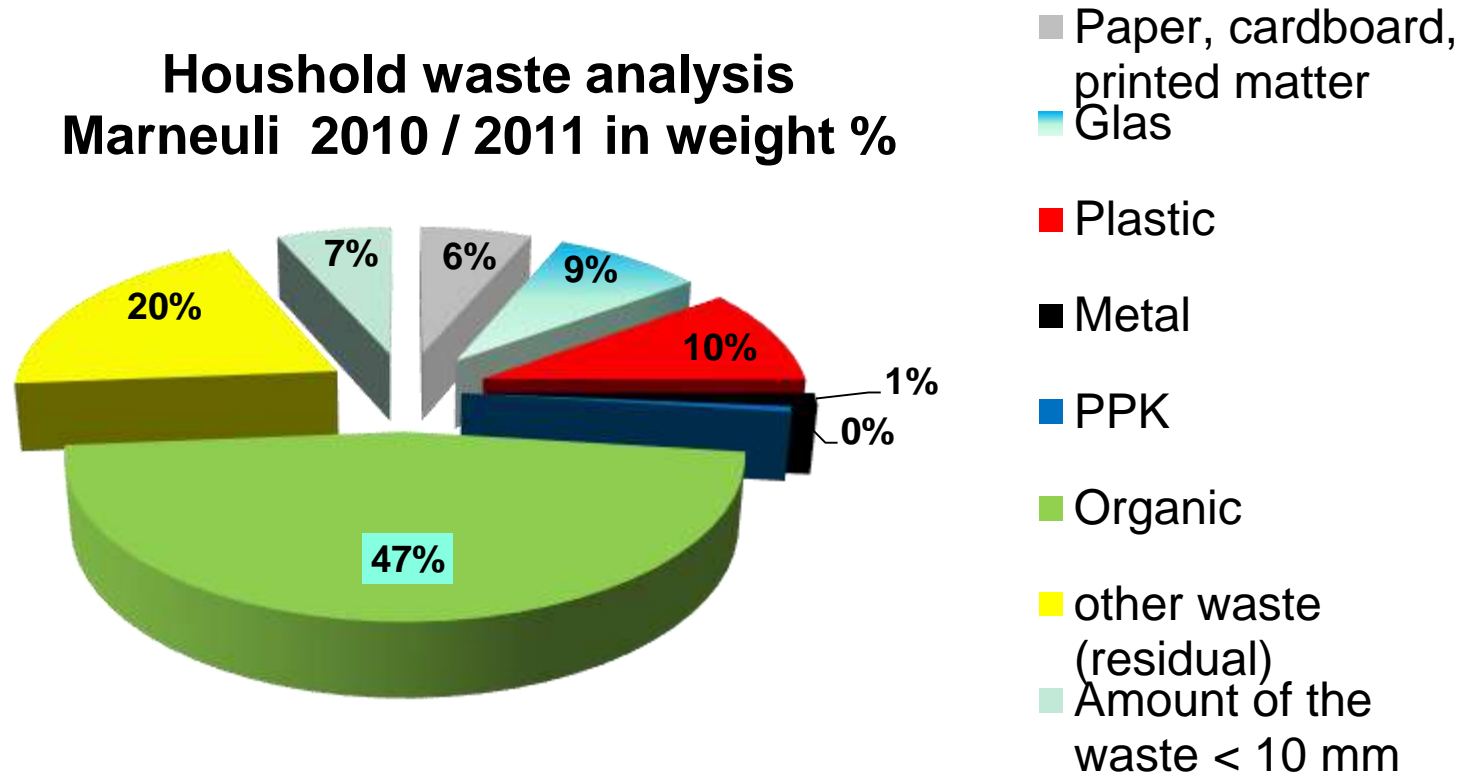
- **Period of implementation:** 2009-2012
- **Geographical coverage:** Marneuli (town in Eastern Georgia)
- **Project partners:** University of Kassel, Germany, Agricultural University of Georgia, Agricultural University of Armenia, Agricultural university of Azerbaijan
- **Financial support provided by:** Johannes Fehr GmbH & Co. KG, Germany

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BIO-COMPOSTING

South Caucasus Compost Project

**Household waste analysis
Marneuli 2010 / 2011 in weight %**



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BIO-COMPOSTING

Bio-composting plant in Marneuli

Established: 2012 (based on the results of South Caucasus Compost Project)

Funded by: the Government of Georgia

Production capacity: 20,000 tones per year



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BIO-COMPOSTING

Compost Application

Landscaping/ Landscape conservation

- landscape gardening
- land restoration (e.g. landfill coverage, mining fields)

Agriculture

- specialized cultivation (e.g. winegrowing, fruit-growing)
- arable farming

Forestry

- afforestation of windbreakage areas and degraded soils
- tree nurseries

Horticulture

- amateur gardening (substitution for peat)



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*Thank you very much
for your attention!*

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